AMENDMENTS TO THE CLAIMS

Please amend the present application as follows:

1. (Currently amended) A method for detecting and correcting for modal dispersion in a multi-mode fiber optic system having an optical signal coupled into a multi-mode fiber, comprising:

detecting a plurality of optical signals radiating from an end of the multi-mode fiber by a multisegment photodetector having different detector regions that detect different portions of the plurality of optical signals; and

modifying detected signals ~~by~~ <u>in</u> the multisegment photodetector to reduce effects of modal dispersion among the plurality of optical signals.

2. (Currently amended) The method of claim 1, wherein ~~the~~ modifying detected signals ~~by~~ <u>in</u> the multisegment photodetector is performed using weighting factors that adjust the detected signals.

3. (Currently amended) The method of claim 1, <u>wherein modifying detected signals in the multisegment photodetector comprises</u> ~~further comprising converting the plurality of optical signals into at least two electrical signals and~~ modifying at least one <u>detected</u> signal by <u>a</u> weighting factor[[s]] to produce [[a]] <u>an output optical</u> signal that approximates ~~a value of~~ the optical signal originally coupled into the multi-mode fiber.

4. (Currently amended) The method of claim 1, wherein ~~the~~ modifying detected signals ~~by~~ <u>in</u> the multisegment photodetector is performed by altering <u>at least one</u> bias among the multiple detection regions, [[as]] the <u>at least one bias representing at least one</u> weighting factor.

5. (Currently amended) The method of claim 1, wherein ~~the~~ modifying detected signals ~~by~~ <u>in</u> the multisegment photodetector is performed <u>by an attenuation of at least one signal, wherein the attenuation represents at least one</u> ~~a using attenuation as the~~ weighting factor.

6. (Currently amended) The method of claim 1, wherein ~~the~~ modifying detected signals ~~by~~ in the multisegment photodetector is performed by an amplification of at least one signal, wherein the amplification represents at least one ~~using amplification as the~~ weighting factor.

7. (Currently amended) The method of claim 1, wherein ~~the~~ modifying detected signals ~~by~~ in the multisegment photodetector is performed by a phase shifting of at least one signal, wherein the phase shifting represents at least one ~~using amplification as the~~ weighting factor.

8. (Currently amended) The method of claim 1, wherein ~~the~~ modifying detected signals ~~by~~ in the multisegment photodetector is performed by applying a delay of at least one signal, wherein the delay represents at least one ~~using delay as the~~ weighting factor.

9. (Canceled)

10. (Currently amended) The method of claim 1, wherein ~~the~~ modifying detected signals ~~by~~ in the multisegment photodetector ~~further~~ comprises examining an output optical signal of the fiber optic system, and ~~of the multi-segment photodetector and~~ adjusting a weighting factor that is applied in the multisegment photodetector to at least one of the detected signals until the output optical signal approximates ~~a value of the optical signal~~ the optical signal coupled into the multi-mode fiber.

11. (Canceled)

12. (Currently amended) The method of claim 1, wherein ~~detecting a plurality of optical signals radiating from an end of the multi-mode fiber by a multi-segment photodetector is performed using~~ the multisegment photodetector ~~having~~ comprises at least two concentric, coplanar, annular photodetectors.

13. (Original) The method of claim 1, wherein detecting a plurality of optical signals radiating from an end of the multi-mode fiber further comprises inserting a diffractive optical

element between the fiber and the multisegment photodetector for modifying the distribution of optical signals among the plurality of detection regions.

14. (Currently amended) The method of claim 1, wherein ~~the~~ detecting a plurality of optical signals radiating from an end of the multi-mode fiber further comprises inserting a reflective optical elements between the fiber and the multisegment photodetector to modify the distribution of optical signals among the plurality of detection regions.

15. (Currently amended) A method for detection and compensation of multimodes produced from a multimode optical fiber system, comprising:

converting an input electrical signal to an optical signal;

~~launching an~~ <u>transmitting the</u> optical signal into a multimode fiber;

positioning a photodetection system at an end of the multimode fiber to receive a plurality of optical signals exiting the multimode fiber;

detecting the multiple optical signals by multiple detectors of the photodetection system<u>, the multiple detectors incorporating a weighting during detection to produce a plurality of</u> ~~producing~~ detected electrical signals; and

~~modifying the detected electrical signals; and~~

adding together the detected electrical signals to generate an output electrical signal corresponding to the input electrical signal.

16. (Original) The method of claim 15, further comprising: transmitting the optical signal using an optical source selected from the group consisting of VCSEL, LED, DFB, and F-P lasers.

17. (Original) The method of claim 16, wherein the transmitting comprises transmitting the optical signal by direct modulation.

18. (Original) The method of claim 16, wherein the transmitting comprises transmitting the optical signal by indirect modulation.

19. (Original) The method of claim 15, further comprising boosting of the optical signal using optical amplification in any part of the multimode optical fiber system.

20. (Original) The method of claim 15, further comprising transmitting the optical signal at any combination of wavelengths selected from the group consisting of 850, 1300, and 1550 nm and neighboring wavelengths.

21. (Original) The method of claim 15, further comprising inserting an intervening optical element between the fiber and photodetection system to alter the distribution optical light to the plurality of detection zones.

22. (Currently amended) The method of claim 15, wherein ~~modifying the detected optical signals further comprises introducing a delay to any of the detected optical signals~~ the weighting produces a delay in at least one of the detected electrical signals.

23. (Currently amended) The method of claim 15, wherein ~~modifying the detected optical signals further comprises attenuating any of the detected optical signals~~ the weighting produces an attenuation in at least one of the detected electrical signals.

24. (Currently amended) The method of claim 15, wherein ~~modifying the detected optical signals further~~ incorporating a weighting comprises biasing ~~any of the detected optical signals~~ at least one of the multiple detectors.

25. (Currently amended) The method of claim 15, wherein ~~modifying the detected optical signals further comprises amplifying any of the detected optical signals~~ the weighting produces an amplification in at least one of the detected electrical signals.

26. (Currently amended) The method of claim 15, wherein ~~modifying the detected optical signals further comprises phase shifting any of the detected optical signals~~ the weighting produces a phase shift in at least one of the detected electrical signals.

27. (Canceled)

28. (Currently amended) A method for detecting and correcting for dispersion in an optical fiber system, comprising:

detecting optical signals radiating from an end of an optical fiber by a multisegment photodetector having a plurality of detection zones incorporating a weighting system for detecting the optical signals, the detection zones positioned adjacent to one another and arranged in a coplanar, annular configuration.

29-30 (Canceled)

31. (New) A system for detecting and correcting the effects of modal dispersion in a multi-mode fiber optic system, the system comprising:

a multi-mode fiber; and

a multisegment photodetector configured to receive an optical signal from the multi-mode fiber and produce a plurality of output electrical signals, wherein at least one segment of the multisegment photodetector includes a weighting system to modify at least one of the plurality of output electrical signals.

32. (New) The system of claim 31, wherein the weighting system comprises a voltage bias applied to at least one segment of the multisegment photodetector.

33. (New) The system of claim 32, wherein the voltage bias is positive to amplify a first signal of the plurality of output electrical signals, and negative to attenuate the first signal of the plurality of output electrical signals.